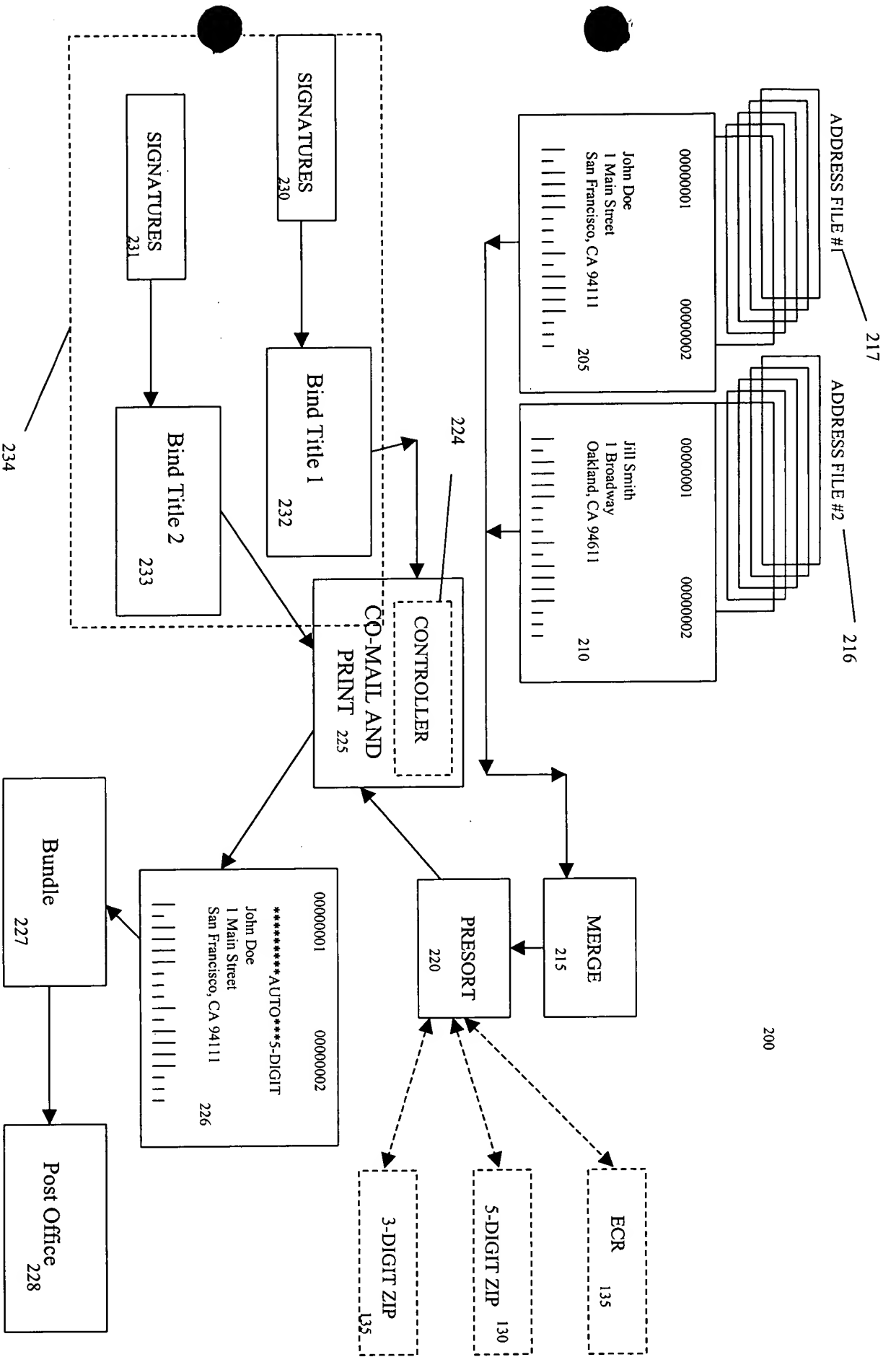


Prior Art FIG. 1

FIG. 1 is a flowchart of a prior art mail processing system. The system starts with an ADDRESS FILE 101, which feeds into a box 105. Box 105 contains a sample address: "John Doe", "1 Main Street", "San Francisco, CA 94111". Below the address is a series of vertical bars representing a barcode. A label 106 points to this barcode. Box 105 feeds into the PRESORT MODULE 110. A box labeled SIGNATURES 115 also feeds into the PRESORT MODULE 110. The PRESORT MODULE 110 feeds into a box labeled Bind and Print 120. The SIGNATURES 115 box also feeds into the Bind and Print 120 box. The Bind and Print 120 box feeds into a box labeled 131. Box 131 contains a sample mail piece with the following text: "00000001", "00000002", "\*\*\*\*\*AUTO\*\*\*5-DIGIT", "John Doe", "1 Main Street", "San Francisco, CA 94111", and a barcode. Box 131 feeds into a box labeled Bundle 135. The Bundle 135 box feeds into a box labeled Post Office 130. Dashed arrows point from the PRESORT MODULE 110 to three dashed boxes: ECR 135, 5-DIGIT ZIP 130, and 3-DIGIT ZIP 135.



Prior Art FIG. 2

FIG. 2 is a block diagram of a mail processing system in accordance with the present invention.

# COCAINE

Plurality of Recipients  
351

00000001

John Alpha  
1 First Street  
Atlanta, GA 30015

405

00000001

Jill Beta  
2 Second Street  
Boston, MA 02163

410

00000001

Bob Gamma  
3 Third Street  
Chicago, IL 60602

415

00000001

Kim Delta  
4 Fourth Street  
Detroit, MI 48131

420

00000001

Mike Epsilon  
5 Fifth Street  
Atlanta, GA 30015

425

00000001

Robin Zeta  
6 Sixth Street  
Boston, MA 02163

430

00000001

Jim Eta  
7 Seventh Street  
Chicago, IL 60602

435

00000001

Matt Theta  
8 Eighth Street  
Detroit, MI 48131

440

445

RECORD LIST

Record #	Name	Street #	Street	City	Zip Code	Customer Info.	CR	Walk Seq.	Title	SC	OEL	Demo.
1.	Alpha, John	1	First Street	Atlanta	30015	00000001	001	WS20	A	0000001	X x Y x H or V	M
2.	Beta, Jill	2	Second Street	Boston	02163	00000003	002	WS10	A	0000001	X x Y x H or V	F
	Gamma, Bob	3	Third Street	Chicago	60602	00000005	003	WS21	A	0000001	X x Y x H or V	M
	Delta, Kim	4	Fourth Street	Detroit	48131	00000007	004	WS136	A	0000001	X x Y x H or V	F
5.	Epsilon, Mike	5	Fifth Street	Atlanta	30015	00000009	001	WS100	A	0000001	X x Y x H or V	M
6.	Zeta, Robin	6	Sixth Street	Boston	02163	00000011	002	WS72	A	0000001	X x Y x H or V	F
7.	Eta, Jim	7	Seventh Street	Chicago	60602	00000013	003	WS86	A	0000001	X x Y x H or V	M
8.	Theta, Matt	8	Eighth Street	Detroit	48131	00000015	005	WS62	A	0000001	X x Y x H or V	M

TO FIG. 5

FIG. 4

FROM FIG. 4

BINDERY SEQUENCE LIST MODULE

505

1. Sequence by zip code beginning with lowest zip code
2. Within each zip code, sequence by carrier route
3. Within each carrier route, sequence by walk sequence with lower walk sequence first

SEQUENCE LIST

510

Seq #	Record #	Name	Street #	Street	City	Zip Code	Customer Info.	CR	WS	Title	SC	OEL	Demo.
1.	2.	Beta, Jill	2	Second Street	Boston	02163	00000003	002	WS10	A	00000001	X x Y x H or V	F
2.	6.	Zeta, Robin	6	Sixth Street	Boston	02163	00000011	002	WS22	A	00000001	X x Y x H or V	F
3.	1.	Alpha, John	1	First Street	Atlanta	30015	00000001	001	WS20	A	00000001	X x Y x H or V	M
4.	5.	Epsilon, Mike	5	Fifth Street	Atlanta	30015	00000009	001	WS35	A	00000001	X x Y x H or V	M
5.	4.	Delta, Kim	4	Fourth Street	Detroit	48131	00000007	004	WS136	A	00000001	X x Y x H or V	F
6.	8.	Theta, Matt	8	Eighth Street	Detroit	48131	00000015	005	WS62	A	00000001	X x Y x H or V	M
7.	3.	Gamma, Bob	3	Third Street	Chicago	60602	00000005	003	WS21	A	00000001	X x Y x H or V	M
8.	7.	Eta, Jim	7	Seventh Street	Chicago	60602	00000013	003	WS86	A	00000001	X x Y x H or V	M

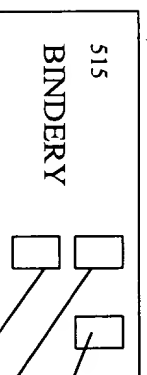


FIG. 5

VERIFICATION DEVICE 530

TO FIG. 6

FROM FIG. 5

000000003000000004	Jill Beta 2 Second Street Boston, MA 02163	610
00000001100000013	Robin Zeia 6 Sixth Street Boston, MA 02163	615
00000000100000002	John Alpha 1 First Street Atlanta, GA 30015	620
00000000900000010	Mike Epsilon 5 Fifth Street Atlanta, GA 30015	625
00000000500000006	Bob Gamma 3 Third Street Chicago, IL 60602	630
00000001300000013	Jim Eta 7 Seventh Street Chicago, IL 60602	635
00000000700000008	Kim Delta 4 Fourth Street Detroit, MI 48131	640
00000001500000016	Matt Theta 8 Eighth Street Detroit, MI 48131	645

VERIFIED SEQUENCE LIST A

Seq #	Rec #	Name	Street #	Street	City	Zip Code	CL	CR	WS	Title	SC	OEL	Wt	Thick	Bundle	Demo
1.	2.	Beta, Jill	2	Second Street	Boston	02163	00000003	002	WS10	A	00000001	XxYxHxv	1.5	.19	1	F
2.	6.	Zeia, Robin	6	Sixth Street	Boston	02163	00000011	002	WS22	A	00000001	XxYxHxv	1.5	.19	1	F
3.	1.	Alpha, John	1	First Street	Atlanta	30015	00000001	001	WS20	A	00000001	XxYxHxv	1.5	.19	1	M
4.	5.	Epsilon, Mike	5	Fifth Street	Atlanta	30015	00000009	001	WS35	A	00000001	XxYxHxv	1.5	.19	1	M
BINDER ERROR FOR SEQUENCE NO. 5																
5.	8.	Theta, Matt	8	Eighth Street	Detroit	48131	00000015	005	WS62	A	00000001	XxYxHxv	2.0	.25	1	M
6.	3.	Gamma, Bob	3	Third Street	Chicago	60602	00000005	003	WS21	A	00000001	XxYxHxv	1.5	.19	1	M
7.	7.	Eta, Jim	7	Seventh Street	Chicago	60602	00000013	003	WS86	A	00000001	XxYxHxv	1.5	.19	1	M
MIXED MAIL																
1.	4.	Delta, Kim	4	Fourth Street	Detroit	48131	00000007	004	WS136	A	00000001	XxYxHxv	1.5	.19	1	F

FROM FIG. 6

VERIFIED SEQUENCE LIST A

605

Seq #	Rec #	Name	Street #	Street	City	Zip Code	CL	CR	WS	Title	SC	OEL	Wt	Thick	Bundle	Demo.
1.	2.	Beta, Jill	2	Second Street	Boston	02163	00000003	002	WS10	A	00000001	XxYxHorV	1.5	.19	1	F
2.	6.	Zeta, Robin	6	Sixth Street	Boston	02163	00000011	002	WS22	A	00000001	XxYxHorV	1.5	.19	1	F
	1.	Alpha, John	1	First Street	Atlanta	30015	00000001	001	WS20	A	00000001	XxYxHorV	1.5	.19	1	M
	5.	Epsilon, Mike	5	Fifth Street	Atlanta	30015	00000009	001	WS35	A	00000001	XxYxHorV	1.5	.19	1	M
RANDOM ERROR FOR SEQUENCE NO. 5																
5.	8.	Theta, Matt	8	Eighth Street	Detroit	48131	00000015	005	WS62	A	00000001	XxYxHorV	2.0	.25	1	M
6.	3.	Gamma, Bob	3	Third Street	Chicago	60602	00000005	003	WS21	A	00000001	XxYxHorV	1.5	.19	1	M
7.	7.	Eta, Jim	7	Seventh Street	Chicago	60602	00000013	003	WS86	A	00000001	XxYxHorV	1.5	.19	1	M
MIXED MAIL																
1.	4.	Delta, Kim	4	Fourth Street	Detroit	48131	00000007	004	WS136	A	00000001	XxYxHorV	1.5	.19	1	F

VERIFIED SEQUENCE LIST B

710

Seq #	Rec #	Name	Street #	Street	City	Zip Code	CL	CR	WS	Title	SC	OEL	Wt	Thick	Bundle	Demo.
1.	6.	Xi, Pat	13	Fourteenth St.	Boston	02163	00000027	002	WS64	B	00000002	X'xY'xHorV	2.0	.19	1	F
2.	4.	Mu, Joe	13	Twelfth St.	Boston	02163	00000023	002	WS45	B	00000002	X'xY'xHorV	2.0	.19	1	M
	5.	Nu, Barb	13	Thirteenth St.	Atlanta	30015	00000025	003	WS10	B	00000002	X'xY'xHorV	2.0	.19	1	F
	1.	Iota, Rob	9	Ninth Street	Atlanta	30015	00000017	001	WS53	B	00000002	X'xY'xHorV	2.0	.19	1	M
5.	7.	Omicron, Deb	15	Fifteenth St.	Detroit	48131	00000029	004	WS45	B	00000002	X'xY'xHorV	2.0	.19	1	F
6.	8.	Pi, Gayle	16	Sixteenth St.	Detroit	48131	00000031	004	WS74	B	00000002	X'xY'xHorV	2.0	.19	1	F
7.	2.	Kappa, Mark	10	Tenth St.	Chicago	60602	00000019	003	WS97	B	00000002	X'xY'xHorV	2.0	.19	1	M
8.	3.	Lambda, Paul	11	Eleventh St.	Chicago	60602	00000021	004	WS6	B	00000002	X'xY'xHorV	2.0	.19	1	M

TO FIG. 8

FIG. 7



MEGED VERIFIED SEQUENCE LIST

805

Seq #	Rec #	Name	Street #	Street	City	Zip Code	CL	CR	WS	Title	SC	OEL	Wt	Thick	Bundle	Demo.
1.	2.	Beta, Jill	2	Second Street	Boston	02163	00000003	002	WS10	A	00000001	XxYxHorV	1.5	.19	1	F
2.	6.	Zeta, Robin	6	Sixth Street	Boston	02163	00000011	002	WS22	A	00000001	XxYxHorV	1.5	.19	1	F
3.	4.	Mu, Joe	13	Twelfth St.	Boston	02163	00000023	002	WS45	B	00000002	X'xY'xHorV	2.0	.19	1	M
4.	6.	Xi, Pat	13	Fourteenth St.	Boston	02163	00000027	002	WS64	B	00000002	X'xY'xHorV	2.0	.19	1	F
5.	1.	Alpha, John	1	First Street	Atlanta	30015	00000001	001	WS20	A	00000001	XxYxHorV	1.5	.19	1	M
6.	5.	Epsilon, Mike	5	Fifth Street	Atlanta	30015	00000009	001	WS35	A	00000001	XxYxHorV	1.5	.19	1	M
7.	1.	Iota, Rob	9	Ninth Street	Atlanta	30015	00000017	001	WS53	B	00000002	X'xY'xHorV	2.0	.19	1	M
8.	5.	Nu, Barb	13	Thirteenth St.	Atlanta	30015	00000025	003	WS10	B	00000002	X'xY'xHorV	2.0	.19	1	F
9.	7.	Omicron, Deb	15	Fifteenth St.	Detroit	48131	00000029	004	WS45	B	00000002	X'xY'xHorV	2.0	.19	1	F
10.	8.	Pi, Gayle	16	Sixteenth St.	Detroit	48131	00000031	004	WS74	B	00000002	X'xY'xHorV	2.0	.19	1	F
11.	8.	Theta, Matt	8	Eighth Street	Detroit	48131	00000015	005	WS62	A	00000001	XxYxHorV	2.0	.25	1	M
13.	3.	Gamma, Bob	3	Third Street	Chicago	60602	00000005	003	WS21	A	00000001	XxYxHorV	1.5	.19	1	M
13.	7.	Eta, Jim	7	Seventh Street	Chicago	60602	00000013	003	WS86	A	00000001	XxYxHorV	1.5	.19	1	M
13.	2.	Kappa, Mark	10	Tenth St.	Chicago	60602	00000019	003	WS97	B	00000002	X'xY'xHorV	2.0	.19	1	M
15.	3.	Lambda, Paul	11	Eleventh St.	Chicago	60602	00000021	004	WS6	B	00000002	X'xY'xHorV	2.0	.19	1	M
...																
MIXED MAIL																
1.	4.	Delta, Kim	4	Fourth Street	Detroit	48131	00000007	004	WS136	A	00000001	XxYxHorV	1.5	.19	1	F

TO FIG. 9

FIG. 8

FIG. 8 is a diagram of a sequence of VSL boxes. The sequence starts with VSL A 605, followed by VSL B 710, and then a series of boxes represented by ellipses, ending with VSL n. Arrows indicate a flow from left to right between the boxes.



FROM FIG. 8

DETERMINE OPTIMIZED MAIL RATE

905

5-Digit Zip Code 1

CRI

CRI

CRI

...

CRT1

IF CRT1  $\geq$  10, THEN ASSIGN ECR MAIL RATE TO EACH RECORD  
IF CRT1  $<$  10, THEN ASSIGN TO A 5-DIGIT TOTAL

CR2

CR2

...

CRn

5-DIGIT TOTAL

IF 5-DIGIT TOTAL  $\geq$  10, THEN ASSIGN 5-DIGIT MAIL RATE TO  
EACH RECORD

3-DIGIT TOTAL

IF 5-DIGIT TOTAL  $<$  10, THEN ASSIGN TO 3-DIGIT TOTAL

IF 3-DIGIT TOTAL  $\geq$  10, THEN ASSIGN 3-DIGIT MAIL RATE  
TO EACH RECORD

IF 3-DIGIT TOAL  $<$  10, THEN ASSIGN TO MIXED MAIL TOTAL

MIXED MAIL TOTAL

ASSIGN MIXED MAIL RATE TO EACH RECORD

5-Digit Zip Code 2

...

TO FIG. 10

FIG. 9

FROM FIG. 9

OPTIMIZED MERGED VERIFIED SEQUENCE LIST

1005

Seq #	Rec #	Name	Street #	Street	City	Zip Code	CL	CR	WS	Title	SC	OEL	Wt	Thick	Bundle	Demo	MR
1.	2.	Beta, Jill	2	Second Street	Boston	02163	00000003	002	WS10	A	00000001	XxYxHorV	1.5	.19	1	F	ECR
2.	6.	Zeta, Robin	6	Sixth Street	Boston	02163	00000011	002	WS22	A	00000001	XxYxHorV	1.5	.19	1	F	ECR
3.	4.	Mu, Joe	13	Twelfth St.	Boston	02163	00000023	002	WS45	B	00000002	XxYxHorV	2.0	.19	1	M	ECR
4.	6.	Xi, Pat	13	Fourteenth St.	Boston	02163	00000027	002	WS64	B	00000002	XxYxHorV	2.0	.19	1	F	SD
5.	1.	Alpha, John	1	First Street	Atlanta	30015	00000001	001	WS20	A	00000001	XxYxHorV	1.5	.19	1	M	3D
6.	5.	Epsilon, Mike	5	Fifth Street	Atlanta	30015	00000009	001	WS35	A	00000001	XxYxHorV	1.5	.19	1	M	ECR
7.	1.	Iota, Rob	9	Ninth Street	Atlanta	30015	00000017	001	WS53	B	00000002	XxYxHorV	2.0	.19	1	M	ECR
8.	5.	Nu, Barb	13	Thirteenth St.	Atlanta	30015	00000025	003	WS10	B	00000002	XxYxHorV	2.0	.19	1	F	SD
9.	7.	Omicron, Deb	15	Fifteenth St.	Detroit	48131	00000029	004	WS45	B	00000002	XxYxHorV	2.0	.19	1	F	SD
10.	8.	Pi, Gayle	16	Sixteenth St.	Detroit	48131	00000031	004	WS74	B	00000002	XxYxHorV	2.0	.19	1	F	SD
11.	8.	Theta, Matt	8	Eighth Street	Detroit	48131	00000015	005	WS62	A	00000001	XxYxHorV	2.0	.25	1	M	SD
13.	3.	Gamma, Bob	3	Third Street	Chicago	60602	00000005	003	WS21	A	00000001	XxYxHorV	1.5	.19	1	M	3D
13.	7.	Eta, Jim	7	Seventh Street	Chicago	60602	00000013	003	WS86	A	00000001	XxYxHorV	1.5	.19	1	M	ECR
13.	2.	Kappa, Mark	10	Tenth St.	Chicago	60602	00000019	003	WS97	B	00000002	XxYxHorV	2.0	.19	1	M	ECR
15.	3.	Lambda, Paul	11	Eleventh St.	Chicago	60602	00000021	004	WS6	B	00000002	XxYxHorV	2.0	.19	1	M	ECR
...																	
MIXED MAIL																	
1.	4.	Delta, Kim	4	Fourth Street	Detroit	48131	00000007	004	WS136	A	00000001	XxYxHorV	1.5	.19	1	F	REG.

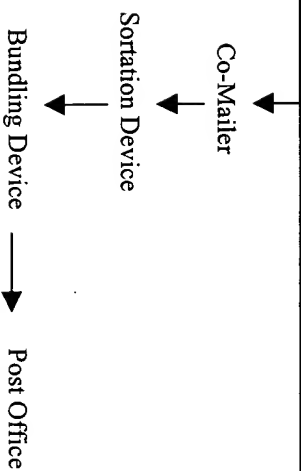


FIG. 10

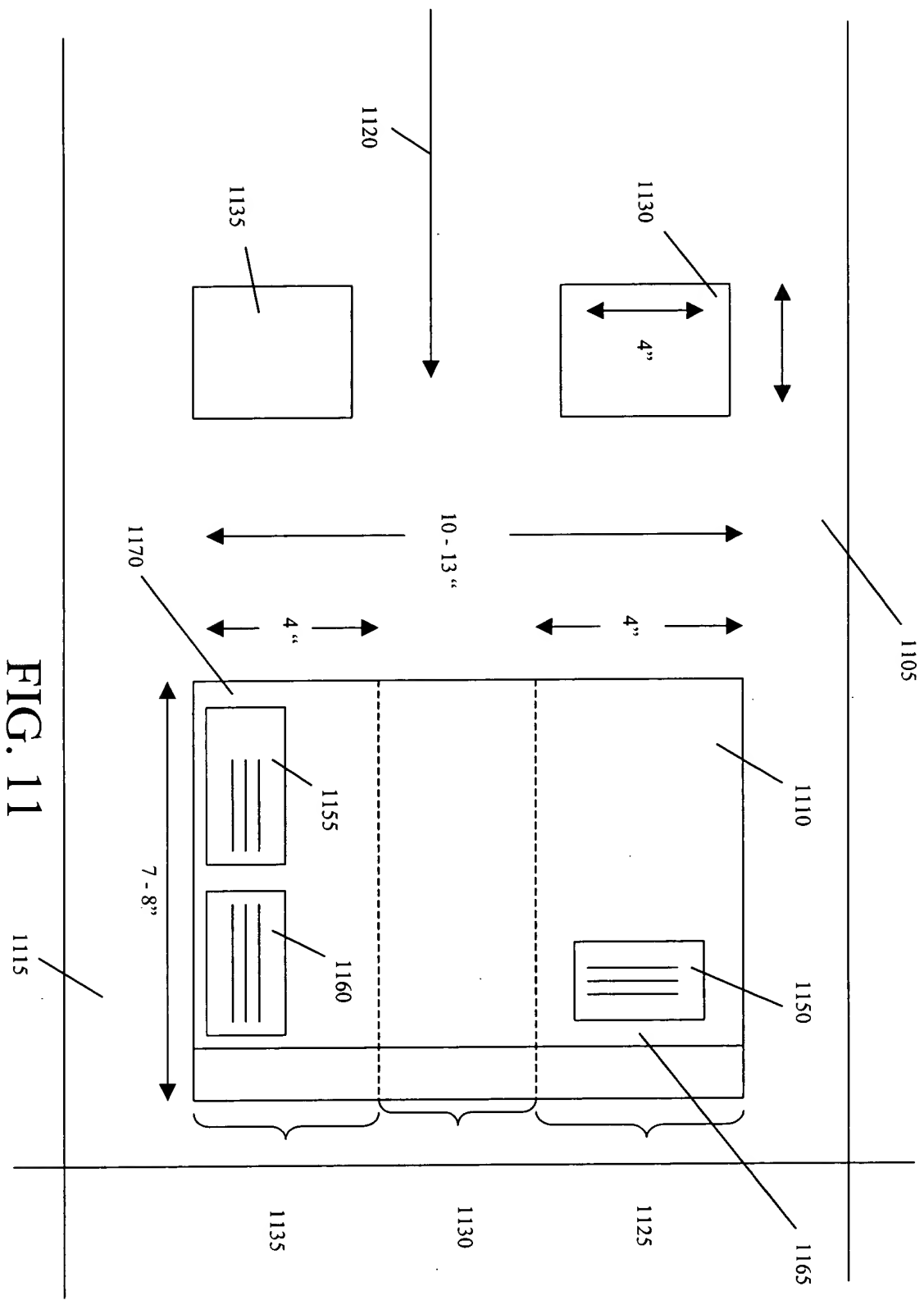


FIG. 11

FIG. 11 is a schematic diagram of a rectangular assembly 1105.

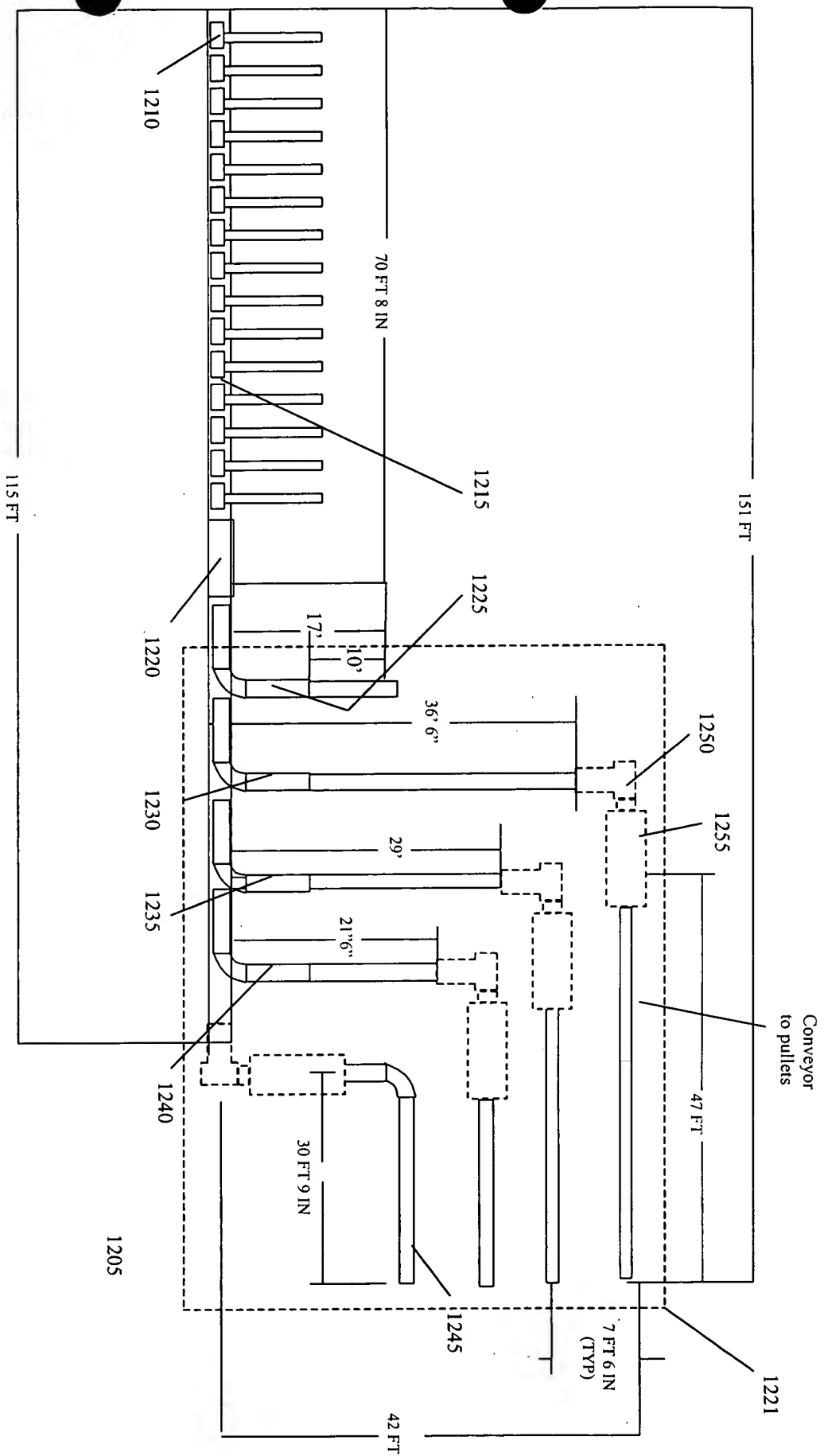


FIG. 12

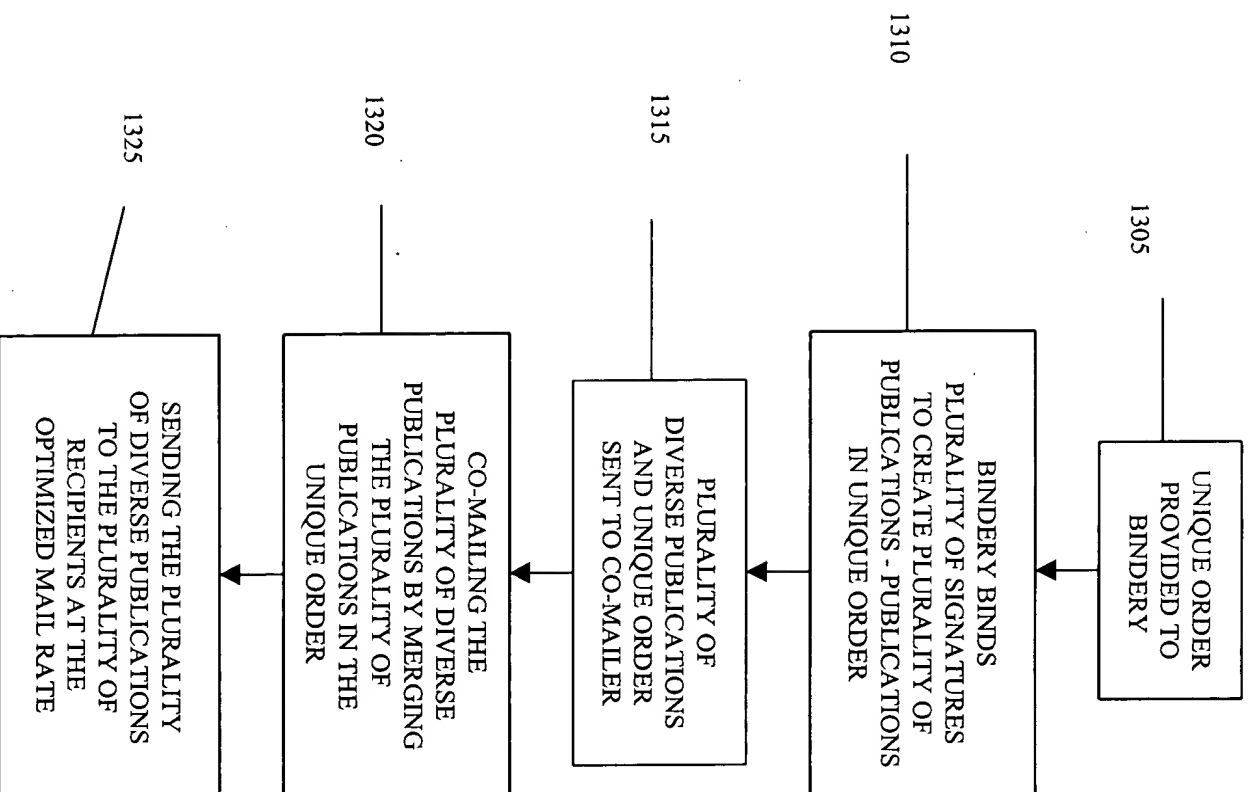


FIG. 13

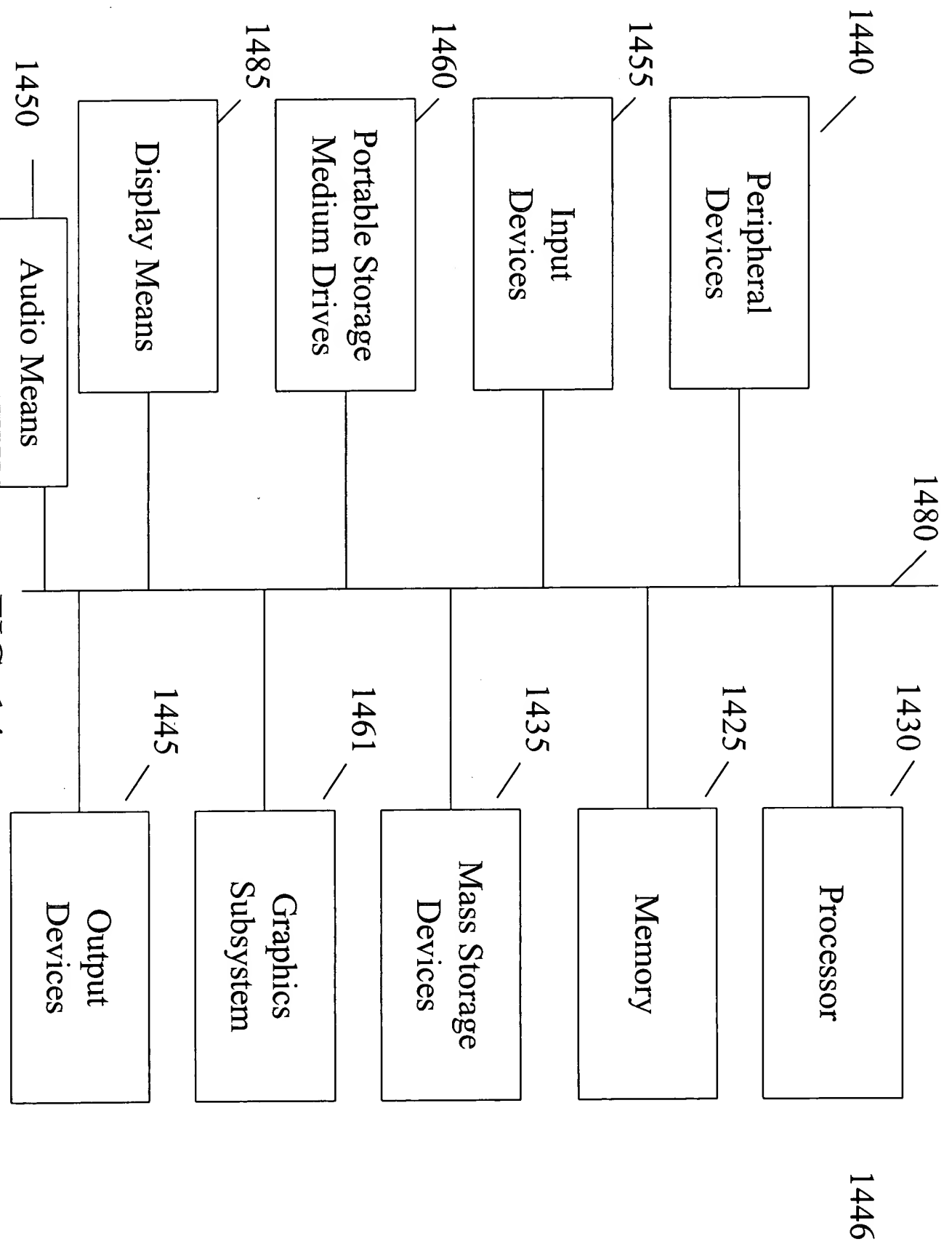


FIG. 14

FIG. 14 is a block diagram of a computer system architecture.